

Aero Design Ltd.**Work Order Control Sheet**Work Order#: 2015-111 Date Opened: 26-Oct-15 Title: AssemblyAircraft OEM: Bell Aircraft Model: 407 Product Type: Cargo Basket Product Model: High Ski Quantity: 1**Work Order Contents**

Work Order/Build Sheets (Procedures Provided)
Additional Work Sheets (Standard Practice)
Drawings (See List Below)
Parts Distribution Sheet
Sub Component Tags
Completed Certification
Time Sheet (R&D)
Notes

Initial or N/A

JR
N/A
JR
JR
JR
JR
N/A
N/A

Build Sheet Contents

Tasks Initialled
Dual Inspections Initialled

Initial or N/A

JR
JR

Drawing List

Drawing #	Rev #	Description	Initial or N/A
76610	0	Basket	JR
76611	0	Body	JR
60632	0	Lid	JR
76621	0	Fwd Mount Hoop	JR
76622	0	Aft Mount Hoop	JR
76623	0	Regular Hoop	JR
76625	0	Placard	JR

Traveller

Install walkway on lid
Install lid on basket body
Re-tap mounting lug holes and install mount lugs
Install handle brackets
Install handle
Install lid prop
Install data plate

Initial or N/A

JR
JR
JR
JR
JR
JR
JR

Work performed by:

Print: J Rekve for M RekveSign: [Signature]

ICC / Dual Inspection preformed by:

Print: Jason RekveSign: [Signature]

Work Order closed by:

Print: Jason RekveSign: [Signature]

Approved Manufacturing Facility 73-04

Form 20.D.03

Component Completion

Quantity Complete on This Work Order
Quantity Incomplete on This Work Order
Further Processing Required Before Release
Release to Stock as Components

As Instructed

1
N/A
N/A
N/A

Certification

Form One Completed
Serviceable (Green) Tag Completed
In Process (Yellow) Tag Completed
Unserviceable (Red) Tag Completed
Parts Placed in Stores for Distribution

Initial or N/A

JR
N/A
N/A
N/A
N/A

Additional Documentation

Documentation of a minor change
Non-Conformance Report Required
Service Difficulty Report Required

Initial or N/A

N/A
N/A
N/A

Billing

Local (Aero Design)
Research and Development
Third Party

Initial or N/A

JR
N/A
N/A

SCA: AD01Date: 26-Oct-15SCA: AD01Date: 26-Oct-15SCA: AD01Date: 26-Oct-15

Rev. Original 23 Sep 2014

1. Approving Civil Aviation Authority/Country Transport Canada		2. AUTHORIZED RELEASE CERTIFICATE FORM ONE			3. Form Tracking No.	
4. Organization Name and Address AERO Design Ltd. – 9888A Malaspina Road, Powell River, BC, V8A 0G3					5. Work Order/Contract/Invoice WO 2015-111	
6. Item	7. Description Cargo Basket Ass'y	8. Part Number 76610-01	9. Qty. 1	10. Serial/Batch No. 76601-18	11. Status/Work New	
12. Remarks Modified with walkway on lid IAW DCL704						
13a. Certifies that the items identified above were manufactured in conformity to: <input checked="" type="checkbox"/> Approved design data and are in condition for safe operation. <input type="checkbox"/> Non approved design data specified in block 12.			14a. <input type="checkbox"/> CAR 571.10 Maintenance Release <input type="checkbox"/> Other regulation specified in block 12 Certifies that unless otherwise specified in block 12, the work identified in block 11 and described in block 12, has been performed in compliance with the Canadian Aviation Regulations.			
13b. Signature <i>Jeff Clarke AD02</i>		13c. Approved Organization Number AMF 73-04		14b. Signature		14c. Approved Organization Number
13d. Name Jeff Clarke - AD02		13e. Date (dd/mmm/yyyy) 02 Nov 2015		14d. Name		14e. Date (dd/mmm/yyyy)
Installer Responsibilities This certificate does not constitute authority to install. Installers working in accordance with the national regulations of a country other than that specified in block 1 must ensure that their regulations recognize certifications from the country specified. Statements in blocks 13a or 14a do not constitute installation certification. In all cases, the technical record for the aircraft must contain an installation certification issued in accordance with the applicable national regulations before the aircraft may be flown.						

Alpine

Work Order: 2015-111Date Open: 26 Oct 152006

1. Lid Assembly

- a. Install lid bumpers on bottom.
 - i. Fill bumper holes with RTV silicone sealant.
 - ii. Insert 49205-14 lid bumper, 3 or 4 places per lid.
- b. Install placard on bracket on top of lid.
 - i. Locate placard on bracket.
 - ii. Drill #30 through placard and bracket, using holes in placard.
 - iii. Remove placard and de-burr holes in placard and on bracket.
 - iv. Locate placard on bracket, and cleco in place.
 - v. Rivet placard with four CR3213-4-02 CherryMax rivets.
- c. Option: Install walkway on top of lid (lid must be fitted with walkway provisions)
 - i. Note: avoid touching surface of tread plate with bare hands to prevent smudges or marks on the top surface.
 - ii. Pull tread plate from stock. Shear tread plate to length.
 - iii. De-burr edges of tread plate with scotch-brite disc on die-grinder.
 - iv. Locate tread plate on lid. Hold tread plate in place with bags of lead shot.
 - v. Mark and drill #30 holes:
 1. 0.25" from edge of tread plate, centre on cross members (0.38")
 2. 0.25" from edge of tread plate, middle of each walkway stringer
 - vi. De-burr and counter-bore (if required to provide clearance of rivet head on checker pattern) all holes in tread plate using 1/4" piloted counter bore on both sides.
 - vii. De-burr holes in lid tubes.
 - viii. Apply bead of RTV silicone sealant along all tubes under tread plate.
 - ix. Set tread plate in place, secure with clecos if necessary.
 - x. Rivet placard with CR3213-4-02 CherryMax rivets
- d. Record PO/WO of all parts (including lid) used in steps above on attached material tracking list.

2006

2. Body Assembly

- a. Install attachment fittings
 - i. Carefully remove excess powder coat from around attachment lug threads using a countersink.
 - ii. Run 3/8-24 tap into attachment lugs to clear threads.
 - iii. Apply anti-seize compound to attachment fittings 96710-01 (alternate: Ancra 40088-14)
 - iv. Install attachment fittings with two NAS1149F0363P washers in four lugs in basket.
 1. 90610 (Robinson R44) basket only:
 - a. Install 1 fitting 906?? in lower forward attachment lug only.
 - b. Install 3 96710-01 fittings in remaining locations.
 - v. Torque to ??

- b. 946 Basket Only: Install Cutout Brace – *must be completed after hinge installation*
 - i. Locate 94621-01 Brace over aft cross tube cutout
 - ii. Install two AN4-6A bolts and two AN4-30A bolts with NAS1149F0463P washers.
 - iii. Torque AN4 bolts to ??
- c. Record PO/WO of all parts (including basket) used in steps above on attached material tracking list.

3. Hinge Installation

AD06

- a. Prepare hinge.
 - i. Cut hinge to length:
 - 1. 776, 906 – 54"
 - 2. 751, 803 – 70"
 - 3. 698, 764, 945 – 72"
 - 4. 784 – 90"
 - 5. 940, 946, 959 – 95"
 - ii. Drill #30 pilot holes using hinge jig. For long hinges, flip at specified location on jig.
- b. Install hinge on basket
 - i. Locate hinge on basket (standard baskets)
 - 1. centre fore/aft
 - 2. 0.15" – 0.18" up from bottom edge
 - ii. Locate hinge on basket (extra wide baskets)
 - 1. centre fore/aft
 - 2. set hinge at 90 degrees (as if lid would be installed) using a small square, locate vertical side at 22.5" from outboard edge.
 - iii. Drill #30 through holes in hinge into basket rim. Cleco in place with 1/8 (copper) clecos.
 - iv. Drill holes up to #21 through hinge and rim. Replace 1/8 clecos with 5/32 (black) clecos.
 - v. Remove hinge and de-burr holes in hinge and basket rim.
 - vi. Cleco hinge to basket with 5/32 clecos.
 - vii. Install hinge with CherryMax rivets
 - 1. CR3523-5-02 monel rivets – last 2 rivets in each end
 - 2. CR3213-5-02 aluminum rivets – all other locations
- c. Install lid on basket
 - i. Locate lid on hinge (all baskets)
 - 1. center fore/aft
 - 2. 0.15" – 0.18" down from top edge
 - ii. Drill #30 through holes in hinge into lid rim. Cleco in place with 1/8 clecos.
 - iii. Drill holes up to #21 through hinge and rim. Replace 1/8 clecos with 5/32 clecos.
 - iv. Remove hinge and de-burr holes in hinge and lid rim.
 - v. Cleco lid to hinge with 5/32 clecos.
 - vi. Install hinge with CherryMax rivets
 - 1. CR3523-5-02 monel rivets – last 2 rivets in each end
 - 2. CR3213-5-02 aluminum rivets – all other locations

- d. Record PO of hinge and rivets on attached material tracking list.

4. Install Handle

ADG

- a. Install handle brackets.
- Set 84267-01 handle bracket on provisions in hoops, 2 places.
 - Install AN3-11A bolt, NAS1149F0363P washer (2), MS21044N3 nut. Two places per bracket, two brackets per basket.
 - Torque AN3 bolts to ??.
- b. Install handle
- Trim 36278-01R and 36278-01L springs to ensure end of spring does not extend past edge of handle bracket, approximately 1/8". Set springs over bushing of 84261-01 handle assembly.
 - Grease two 36275-01 bushings with ?? Insert into bushings of handle assembly.
 - Locate handle on basket lid. Insert AN3-12A bolt with NAS1149F0363P through bracket on lid and handle bushing on one end of handle.
 - On other end of handle, hook spring over catch rivet on handle assembly and use spring tool to twist spring to catch arm on bracket on lid while inserting AN3-12A bolt with NAS1149F0363P washer through lid bracket and handle bushing.
 - At first end, remove bolt and repeat step iv.
 - Install NAS1149F0363P washer and MS21044N3 nut on both AN3-12A bolts.
 - Torque AN3 bolts to ??.
- c. Check handle
- Operate handle to ensure handle does not bind and springs hold handle in.
 - Snap handle into brackets to ensure handle locks.
- d. Record PO/WO of all parts used in steps above on attached material tracking list.

5. Install lid brace

ADG

- a. Locate 36280-01 lid brace on bushing in basket. Ensure brace is on forward end of basket as it will be installed on the helicopter.
- b. On lid end, insert AN970-3 washer into end of lid brace. Insert AN3-15A bolt with NAS1149F0363P washer through AN970-3 washer, lid prop, and lid bushing. Install NAS1149F0363P washer and MS21044N3 nut on bolt.
- c. On basket end, insert AN3-17A bolt with AN970-3 washer through lid prop and basket bushing. Install NAS1149F0363P washer and MS2144N3 nut on bolt.
- d. Ensure brace is seated on lip of bushings before tightening nuts.
- e. Torque AN3 bolts to ??
- f. Record PO/WO of all parts used in steps above on attached material tracking list.

CARGO BASKET ASSEMBLY - COMMON

Complete
(initial or SCA #)

AK

6. Final Inspection

Dual inspection by a different person than assembled the basket.

- a. Check for general condition and correct assembly:
 - i. Bolts are tight
 - ii. Rivets are installed correctly
 - iii. Handle operates correctly
 - iv. Lid brace operates correctly
- b. Check that PO/WO numbers have been recorded.

CARGO BASKET HANDLE FABRICATION

General

These instructions apply to all cargo basket handle assemblies. Refer to the following drawings, at the current revision, for dimensions and details:

All Models: 84261, Rev. 1

Work Order: 2015-111

Complete
(initial or SCA #)

Date Open: 26 Oct 15

AD-05

1. Weld Lever Assembly – handle lever jig required
 - a. Set MS20615-4M3 monel rivet into socket in jig
 - b. Set 36274-01 bushing into socket in jig
 - c. Set 84261-01 lever onto handle jig, with rivet and bushing protruding into lever.
 - d. TIG weld around bushing using ER308L rod.
 - e. Fuse weld rivet to lever. Additional ER308L rod may be used if required.
 - f. Repeat steps a-f using hole/socket on opposite side of jig to make opposite lever assembly.
 - g. Record material POs on attached material list.

2. Clean up
 - a. Clean lever assembly by media blasting with glass bead.
 - b. Drill out lever bushing to O (0.316) on lathe:
 - i. Grasp bushing in chuck, ensure rivet clears between the jaws.
 - ii. Run at 300 RPM.
 - iii. Apply a drop of Rapid-Tap to drill.
 - c. De-burr.

3. Fabricate Handle Assembly
 - a. Temporarily install handle levers (from step 2) on lid assembly. Ensure long side of handle bushings are on INSIDE (pointing together).
 - b. Measure across TOP side of levers.
 - c. Cut handle tubing to length measured.
 - i. Handles under 40" long: 1.0" x 0.035 round tube
 - ii. Handles over 40" long: 1.0" x 0.065 round tube
 - d. De-burr tube.
 - e. Insert tube into handle levers. Tap with a plastic mallet to seat tube flush with lever. Raise handle to ensure both levers touch stops to check alignment.
 - f. Record material PO on attached material list.

AD-06

4. Weld Handle Assembly
 - a. Fuse tube to lever on both ends. Ensure levers are parallel.

AD-05

5. Clean up
 - a. Clean welded area with scotch-brite.

AD-06

6. Final Inspection –

To be completed by a different person than the previous steps.

 - a. Welds for complete and handle for fit.
 - b. Tag complete and inspected parts in preparation for installation.

AD



Aero Design Ltd.

9888 A Malaspina Rd., Powell River, BC
V8A 0G3, 604-483-AERO (2376)

Quantity:	1	
PN:	Aluminum Checker plate	
Aircraft:	All	Model: All
Description:	5 7/8" x 10', .065", pattern c102	
Supplier:	Daigle Marine	
Color:	N/A	
WO#:	N/A	PO# 15056



Aero Design Ltd.

9888 A Malaspina Rd., Powell River, BC
V8A 0G3, 604-483-AERO (2376)

Quantity: 1

PN: MS20001P4-7200

Aircraft: All

Model: All

Description: Hinge

Supplier: Aircraft Spruce

Color: N/A

WO#: N/A

PO# 15063



WO# 2015-111

Approved Manufacturing Facility 73-04

Form 20.F.06

Rev. Original 27 May 2013

A

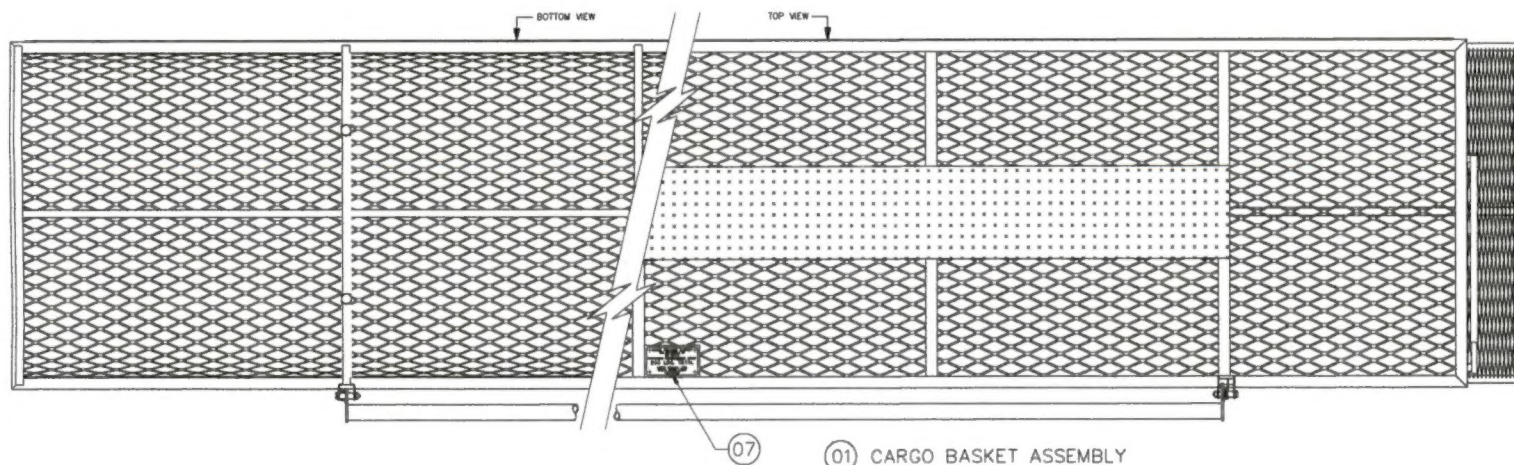
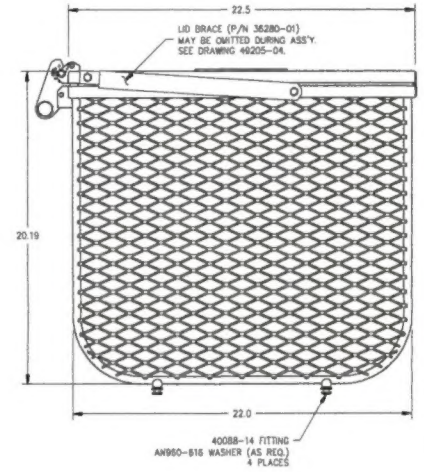
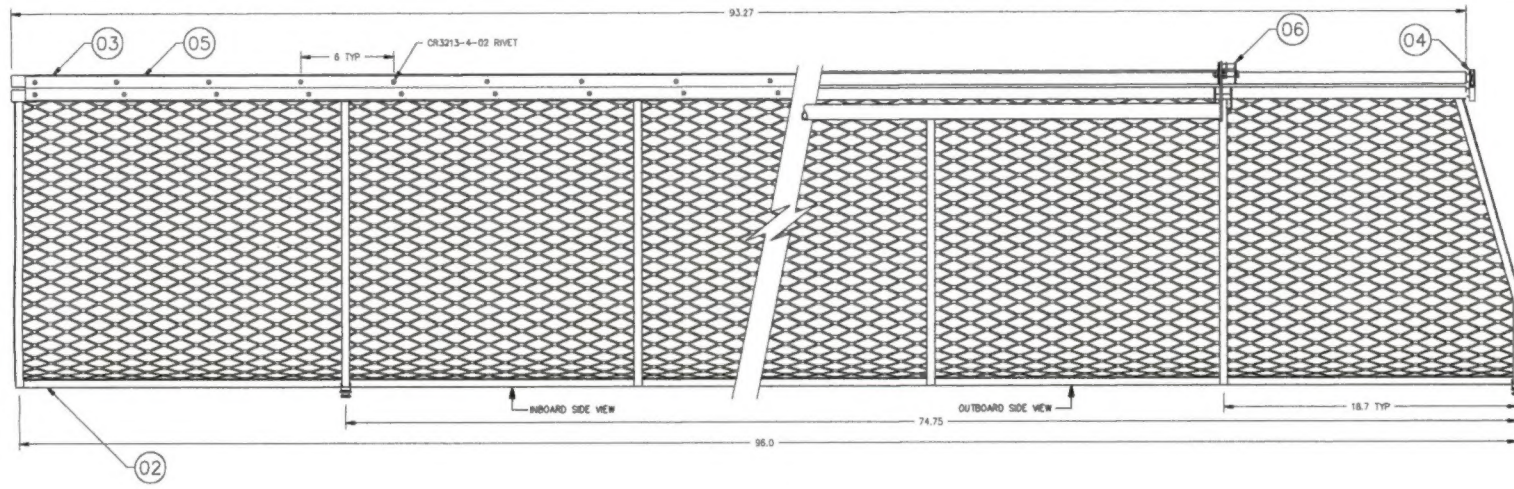
2015-111
WO# N/A

WO# N/A

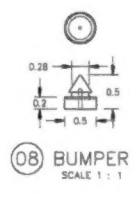
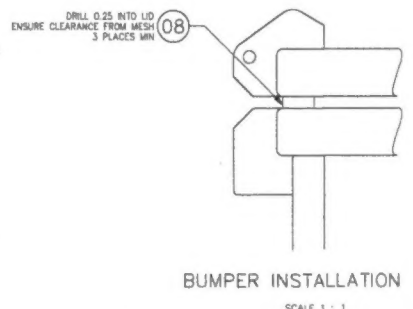
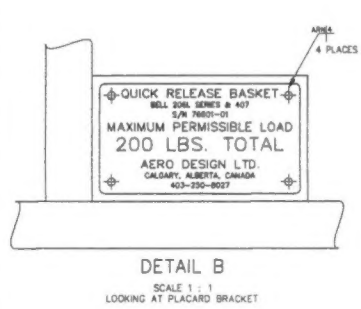
[illegible]

2015-111

THIS DRAWING CONTAINS INFORMATION AND DATA WHICH IS PROPRIETARY TO AERO DESIGN LTD. THIS DRAWING OR ANY PORTION THEREOF, MAY NOT BE REPRODUCED, COPIED, OR DUPLICATED IN ANY MANNER, NOR USED FOR MANUFACTURING WITHOUT THE WRITTEN CONSENT OF AERO DESIGN LTD. BY ACCEPTING THIS DRAWING FOR REFERENCE, THE RECIPIENT AGREES TO HOLD AERO DESIGN LTD. HARMLESS FROM THE USE, OR MISUSE, OF THIS DRAWING OR THE INFORMATION CONTAINED THEREIN.			
REV	DESCRIPTION OF CHANGE	INITIALS	DATE
0	CREATED FROM 60630	BJC	SEPT 25/07



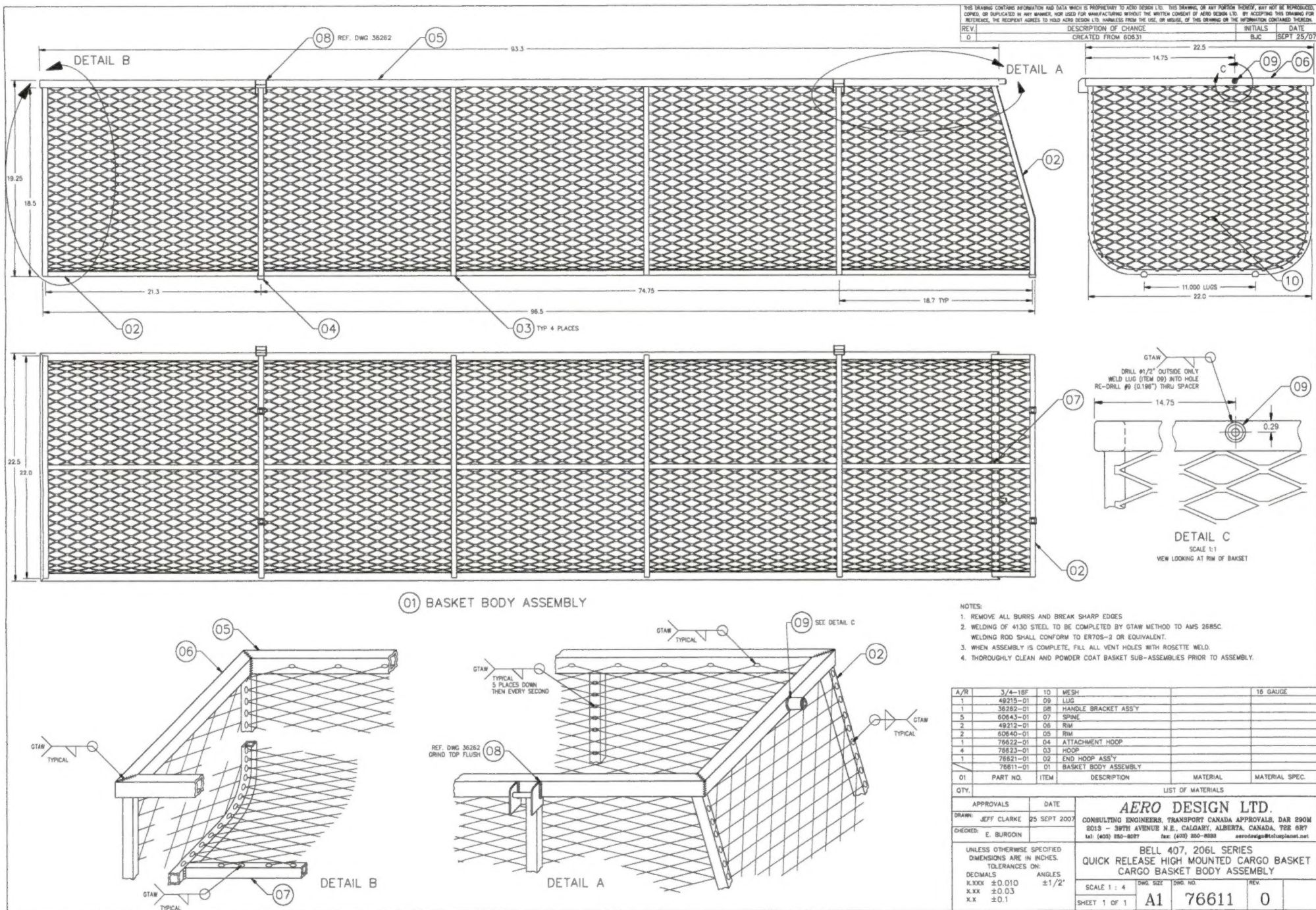
NOTE:
1. ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY. DIMENSIONS OF COMPONENTS AND COMPLETE ASSEMBLY ARE DETERMINED IN PREVIOUS STEPS.



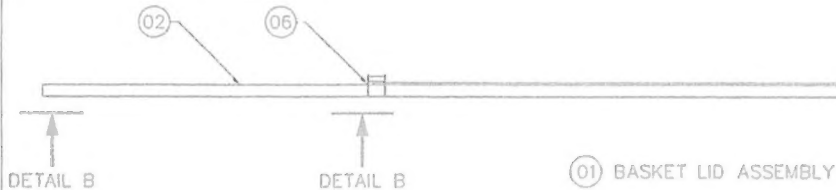
01 CARGO BASKET ASSEMBLY

QTY.	PART NO.	ITEM	DESCRIPTION	MATERIAL
A/R	CR3213-4-02	CHERRY RIVET		
A/R	AN960-515	WASHER		
4	40088-14	FITTING	ANCA	
A/R	49205-14	BUMPER	ARGUS INDUSTRIES	
1	78625-01	07 PLACARD		
1	36255-01	06 HANDLE BAR INSTALLATION		
1	MS20001P4	05 PIANO HINGE		
1	36256-01	04 BRACE INSTALLATION		
1	60632-01	03 LID ASSEMBLY		
1	78611-01	02 BASKET BODY ASSEMBLY		
1	78610-01	01 CARGO BASKET ASSEMBLY		

APPROVALS		DATE	AERO DESIGN LTD.	
DRAWN: JEFF CLARKE		25 SEPT 2007	CONSULTING ENGINEERS, TRANSPORT CANADA APPROVALS, DAR 290M	
CHECKED: E. BUROON			8013 - 39TH AVENUE N.E., CALGARY, ALBERTA, CANADA, T2E 6R7	
			Tel: (403) 850-8027 Fax: (403) 850-8283 aerdsgn@a1austel.net	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES IN:			BELL 407, 206L SERIES	
DECIMALS		ANGLES	QUICK RELEASE HIGH MOUNTED CARGO BASKET CARGO BASKET ASSEMBLY	
X.XXX ±0.010		±1/2°	SCALE 1:1	
X.XX ±0.03			SHEET 1 OF 1	
X.X ±0.1			DWG. NO. REV.	
			A1 76610 0	



REV.	DESCRIPTION OF CHANGE	INITIALS	DATE
0	INITIAL ISSUE		



NOTES

1. REMOVE ALL BURRS AND BREAK SHARP EDGES
2. WELDING OF 4130 STEEL TO BE COMPLETED BY GTAW METHOD TO AWS 2085C. WELDING ROD SHALL CONFORM TO ER70S-2 OR EQUIVALENT.
3. WHEN ASSEMBLY IS COMPLETE, FILL ALL VENT HOLES WITH ROSEXITE WELD.
4. THOROUGHLY CLEAN AND POWDER COAT BASKET SUB-ASSEMBLIES PRIOR TO ASSEMBLY.

A/R	60632-10	00	TREAD PLATE	ALUMINUM	COMMERCIAL
A/R	60649-01	09	STEP BRACE		
A/R	3/4-18F	08	MESH	4" x 8" SHEET	16 GAUGE
1	36204-10	07	FLANGED BRACKET		
1	36382-01	08	UPPER HANDLE BRACKET ASSY		
1	49218-01	05	LUG		
4	49213-01	04	LID BRAGE		
2	49212-01	03	RIM		
2	60640-01	02	RIM		
1	60632-01	01	BASKET LID ASSEMBLY		
QTY.	PART NO.	ITEM	DESCRIPTION	MATERIAL	MATERIAL SPEC.
LIST OF MATERIALS					

APPROVALS DRAWN: JEFF CLARKE CHECKED: E. BURGON		DATE 12 AUG 2004	LIST OF MATERIALS AERO DESIGN LTD. CONSULTING ENGINEERS, TRANSPORT CANADA APPROVALS, DAR 8907 8015 - 39TH AVENUE N.E., CALGARY, ALBERTA, CANADA, T2E 6R7 TEL: (403) 252-0537 FAX: (403) 252-0533 acdesign@aerobase.net	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ON:			BELL 407-208L SERIES HIGH SIDE MOUNTED CARBON BASKET CARBON BASKET LID ASSEMBLY	
DECIMALS ANGLES .XXX ±0.010 .XX ±0.03 .X ±0.1		±1/2"	SCALE 1 : 4	DWG. SIZE DWG. NO. REV. A1 60632 0
SHEET 1 OF 1				

